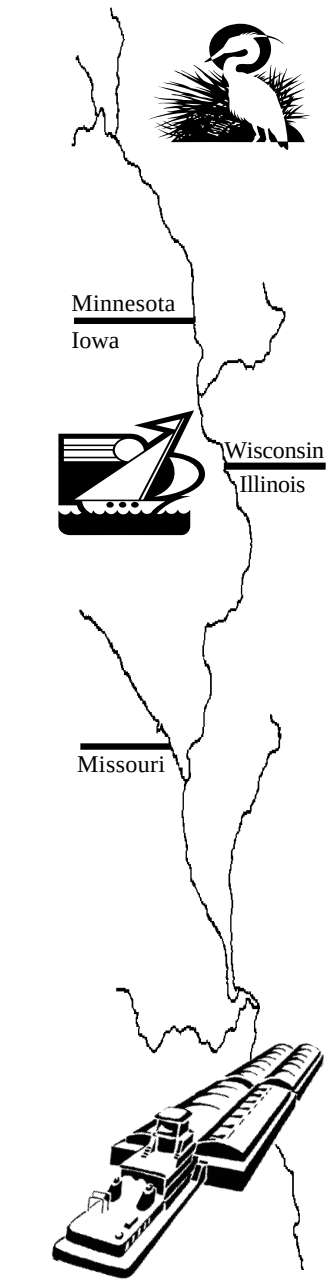
US Army Corps of Engineers

Upper Mississippi River - Illinois Waterway System Navigation Study

UMR-IWW System Navigation Study Newsletter | June 1998 | Vol. 5 No.3



Public Workshops Delayed

June cycle meetings also postponed

New meeting dates to be announced in August

The public workshops scheduled for late July have been postponed due to a delay in the development of the National Economic Development Plan and other alternatives that are scheduled to be discussed.

The National Economic Development (NED) Plan, defined as the plan that brings the greatest net economic benefit to the nation consistent with protecting the environment, is a key step in the Navigation Study's effort to identify the best way to reduce congestion of commercial tows at locks on the Upper Mississippi River and Illinois Waterway.

However, calculation of that plan requires a complex interaction among the study's engineering, economic and environmental data. Some of the study components are behind schedule, delaying application of the models and the formulation process. That, in turn, forced postponement of both the scheduled Governors' Liaison Committee (GLC) meetings and the workshops for the general public, said Mark Gmitro, project manager. In addition, Corps of Engineers officials believe it is important to complete an independent technical review or "quality check" of the models before proceeding with plan development.

"We're committed to an open process," Gmitro said at the May 12 meeting of the Governors' Liaison Committee. "This meeting is an example of that. We're sharing that we're a little behind schedule and are working to complete the study process in a timely manner."

In a letter to GLC members canceling the planned unveiling of the NED plan, Major General Phillip R. Anderson, commander of the Mississippi Valley Division, said the decision was based on delays in a few key study areas that are critical to the development of the preliminary NED plan and future plan formulation activities. Those study elements include technical review of engineering studies that quantify the cost and performance data for large- and small-scale measures; a technical review of economic models and products; and the completion and technical review of environmental models needed to quantify system environmental effects. That data will be used to develop plans to avoid, minimize or mitigate significant environmental impacts.

> *"What we owe our public is the best possible technical answers."*
>
> *Dusty Rhodes*
> *planning chief, MVD*

The engineering review was prompted by safety concerns raised by the navigation industry regarding some of the small-scale measures. In addition to the subsequent

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revisions in small-scale data, the Engineering Work Group has revised large-scale costs based on a new design that completes more of the construction during times when the locks are not in operation, saving on the cost impacts to navigation.

Meanwhile, the Corps is working to complete a quality control check on economic models before it can determine which of the various improvements appears to maximize net benefits to the nation. The Corps originally planned to run the quality check concurrently with the data analysis but decided it was unwise given the interdependence of the models and the need to validate the data and methods. If inaccurate data is used in the first of a series of models, the inputs and outputs of the subsequent models also will be inaccurate.

The issues prompting delay are expected to be resolved by the study team in the coming weeks, and a revised study schedule will be developed and presented in the September 1998 newsletter. "This is not about endless delays," said Dusty Rhodes, planning chief for the Mississippi Valley Division. "But what we owe our public is the best possible technical answers."

Public input crucial

Before the next phase of the public involvement process starts, Rhodes and other team members said it is important to ensure the study's analysis accurately portrays the reality of the river system, both without navigation improvements and with a given set of improvements in place. Then, representatives of the study states and general public can focus comments on the specifics of a given plan.

Public input is a key component of the plan formulation process, and the rescheduled workshops will be held in the same locations and will follow the same interactive format outlined in previous issues of the newsletter. The new workshop dates are expected to be announced at the GLC meeting in August. At that time, dates also should be set for a series of GLC "cycle" meetings, also open to the general public, during which state representatives will continue to provide input into the plan formulation process. ❍

NOTE: The cycle meetings scheduled for June 24-25 have been postponed.

SAFETY CONCERNS PROMPT MINOR REVISIONS

Safety concerns have led to minor revisions in some of the small-scale measures still under consideration as part of the Navigation Study.

As a result of concerns raised by the navigation industry and in coordination with the U.S. Coast Guard, the Engineering Work Group has revised cost estimates using 2,200 horsepower switchboats rather than the 1,200 horsepower boats originally proposed. Particularly on the upstream end of a lock, it is possible that a switch boat without adequate power could be pulled into a dam because of strong currents while helping tows navigate through a double-lockage process, and the study team wanted measures that could reasonably operate under all conditions. Another change involves the pairing of switchboats with a permanent extension of the upper guidewall to cut off the potentially dangerous current that could flow under the temporary guidewalls originally proposed with the measure.

Also as a result of safety concerns, the team is reexamining use of "industry self-help with facilities," another small-scale measure still under consideration. When self-help is used, as it is now during times of excessive delay, a tow waiting in line to use the lock will uncouple its own barges and help other tows navigate more quickly through the lock. At the May GLC meeting, Chris Brescia, president of MARC (Midwest Area River Coalition) 2000, expressed strong industry concern with the adoption of the measure as a standard operating procedure with routine use in the future.

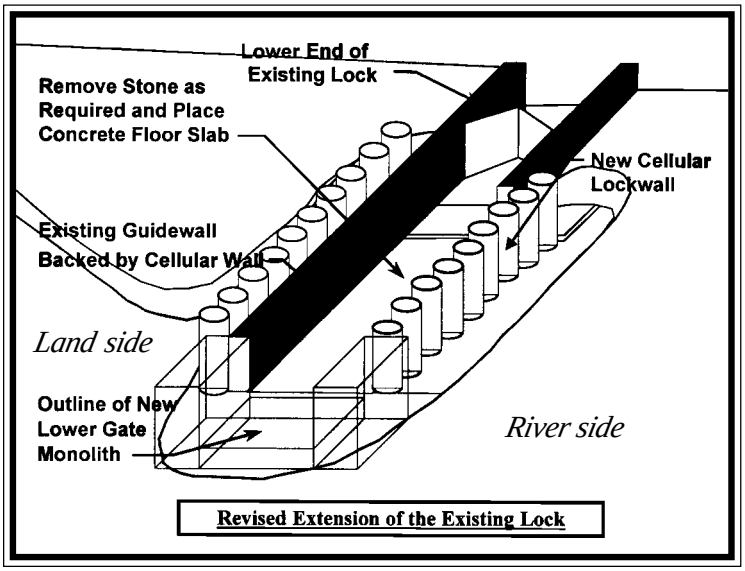
The Corps is considering the option of extending existing guidewalls as it further evaluates industry self-help in the plan formulation process. That would eliminate the higher risk option of backing upstream. The Corps also is continuing to look at when and where the measure could safely be used.

NEW LOCK CONCEPT DEVELOPED

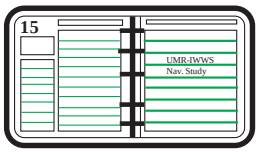
The Navigation Study's Engineering Work Group has taken the least expensive way it has found to date to construct a new lock and made it a more viable alternative by finding ways to reduce costly navigation delays during construction.

In addition to a variety of "small-scale" measures designed to reduce commercial river congestion with no new lock construction, the work group examined six possible locations for a new lock and three lock types. At this point, most possibilities remain viable study alternatives. While the Corps could end up recommending none of the alternatives for action, work groups continue finalizing development of the most cost-effective measures for further consideration.

Initial engineering information revealed that at most lock sites, a "Location 2" lock - a downstream extension of the existing lock - was the most inexpensive because it makes use of the existing 600-foot structure. However, construction impacted the use of the existing lock during much of the three-year construction process, resulting in about a $50 million impact to navigation in addition to the lock construction costs. Those added costs reduced the price difference among locations, making it more difficult to select the optimum way to build a new lock if new construction is found to be economically justified. As a result, the engineering work group set out to determine if modifications could reduce the time and costs of impacts to the navigation industry.



The new variation, presented at the May meeting of the Governors' Liaison Committee, saves approximately $45 million on the impact to navigation alone, said Bob Hughey, technical manager of the Engineering Work Group. In addition, it also reduces the actual construction cost by departing from some standard design criteria and practice the Corps has used in the past.



Upcoming Meetings

Navigation Environmental Coordination Committee
June 17, 1998 8:00 a.m. - 4:00 p.m.
June 18, 1998 8:00 a.m. - Noon
Plaza One Hotel, Rock Island, Ill.

Economics Coordinating Committee
August 18, 1988 9:00 a.m. - 2:00 p.m.
Moxie's (Best Western Midway Hotel), LaCrosse, Wis.

Governors' Liaison Committee
August 18, 1998 3:30 - 6:30 p.m.
Moxie's (Best Western Midway Hotel), LaCrosse, Wis.

Changes from the original location 2 lock plan include: maintaining the current depth of the lock rather than increasing it; not extending the filling and emptying system; reusing the lock guidewall; and shortening the new guidewalls from 1,200 to 600 feet. These changes allow the existing lower guidewall to be used as a lock wall. They also eliminate the cost of extending the filling and emptying system. While that increases the lockage time by approximately four minutes over the time required for a 1,200 foot lock with a full-length filling and emptying system, it also greatly reduces costs, Hughey said.

Under the revised approach, the land side lock wall would be constructed by reinforcing the existing 600-foot downstream guidewall with a row of cellular steel sheet-pile (metal) cells filled with sand and connected to the wall. This construction could occur at any time without impacting navigation. The river side lock wall extension would consist of interlocked cells filled with concrete which would provide a relatively durable long-term structure. The final key to reduced impacts to navigation would involve use of float-in technology to place a new lower gate. This allows for the structure to be made on land and then moved into place and anchored, reducing the time associated with lock closures.

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Revised construction costs for pile-founded locks are estimated at $135 million, compared to an initial estimate of $174 million. In addition, the impacts to navigation could be reduced from approximately $50 million to $5 million. In total, this could reduce costs as much as $84 million for a single pile-founded lock site and somewhat less for rock-founded sites. Those cost figures, however, do not include any potential environmental mitigation costs, which also will be incorporated into the plan formulation process.

Hughey told the GLC the new construction scenario is less efficient than the original version, but said it is worth a look because of the large cost savings. He also stressed that all measures under consideration are just possibilities.

"Engineering is providing a set of improvement measures. It does not mean we will or won't build any of them," he said. "The engineering goal is to come up with structurally sound and the most economical measures for input into the planning process." ❍

Questions?

❍ For general study information, call Mark Gmitro project manager, at 309/794-5279 or write to the address below, ATTN: CEMVR-PP-M or visit our home page at: **http://www.mvr.usace.army.mil/pdw/nav_study.htm**

❍ For information on Public Involvement meetings, call the toll-free telephone number, 800/USA(872)-8822. Meeting announcements will be in the Public Involvement menu. Or call Kevin Bluhm, public involvement coordinator, at 612/290-5247, or write to the address below, ATTN: CEMVR-PD-C.

❍ To be added to the mailing list for future newsletters, study updates, and meeting announcements, write to the address below, ATTN: CEMVR-PD-C, or call the toll-free telephone number and leave your information in the Public Involvement menu.

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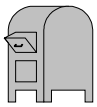

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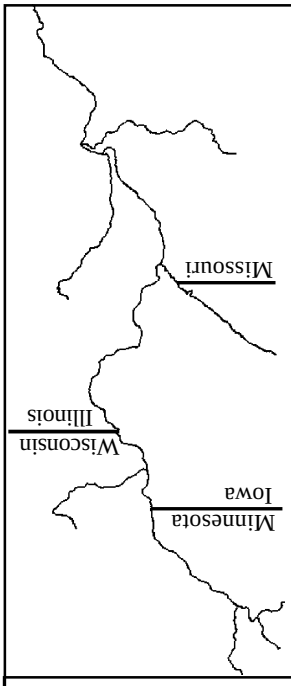

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